

From: Reyes, Erik@DWR
Sent: Wednesday, August 05, 2015 10:48 AM
To: As-Salek, Junaid; Parker, Nancy
Cc: Jobaid Kabir
Subject: RE: MBK Suggestions on CS3 San Luis operations

Junaid,
I apologize for the late response. I have been very busy with California Water Fix work and have not had a chance to reply. Here are my general comments.
I do not have any editorial comments about the memo. It was straightforward and easily understandable. MBK was able to identify weaknesses with the allocation procedure and with the rulecurve. They also demonstrated methods to address these weaknesses that improve the model performance. However their method for developing year by year export "forecasts" appears to go against the CalSim model convention of not giving the model an unreasonable amount of foresight.
It seems that the export forecasts should be reviewed and studied to see if a more generalized rule could be derived from the forecasts. It does not seem reasonable to use these forecasts in production level studies for the reasons Nancy lists below.
Thanks,
Erik

From: As-Salek, Junaid [<mailto:jassalek@usbr.gov>]
Sent: Thursday, July 30, 2015 2:15 PM
To: Parker, Nancy
Cc: Jobaid Kabir; Reyes, Erik@DWR
Subject: Re: MBK Suggestions on CS3 San Luis operations

Thanks Nancy for your valuable comments.
While work performed is a foundation for future model development efforts, let us explore opportunities to apply the concepts and suggestions to a particular project.
- Junaid

On Thu, Jul 30, 2015 at 1:51 PM, Parker, Nancy <nparker@usbr.gov> wrote:

Hi Junaid et al -
here are my general comments...
MBK's task was to examine San Luis reservoir behavior in the CalSim model. The modest scope of the effort was expected to yield information on logic and input data changes to

consider in addressing shortcomings, and to show the potential that San Luis improvements would have for affecting overall CalSim model results. These goals were satisfactorily achieved.

The roles of three areas of CalSim model logic were investigated

- South of delta CVP project Ag allocation (relative to north of delta)
- Export capacity estimate (used in setting allocation)
- San Luis rule curve

While these logic areas are not completely separate from each other, they each have distinct

effects on San Luis operations. Concerns that were addressed had the combined effect of

improving the realistic depiction of San Luis operations considerably, while showing intuitive

effects on overall project delivery and storage operations.

At the consultant presentation, DWR and BOR expressed some concern with the annual

variability of the export forecasting and the “training” necessary to calibrate this parameter.

This approach would be particularly problematic or time consuming for studies involving climate change. A more generalized function would be preferable. It is noted that San Luis

still reacts differently to dry year constraints in the 30’s drought and in the 90’s drought, signaling additional tweaking is needed to achieve an improved solution.

The work performed will serve as a foundation to build on in future model development efforts. Application to a particular project, and better distinction of the roles that each of the

three areas of logic improvement can play are opportunities that could be undertaken in the

short term to further our understanding of San Luis’ sensitivities in CalSim.

Thanks,
Nancy

On Wed, Jul 29, 2015 at 8:01 AM, As-Salek, Junaid <jassalek@usbr.gov> wrote:

Reviewers,

Just a friendly reminder that your independent review comments are due by COB today.

Thanks,
Junaid

On Thu, Jul 23, 2015 at 9:01 AM, As-Salek, Junaid <jassalek@usbr.gov> wrote:

Thanks Nancy for passing the information to Kristin.

All Reviewers,

Please provide your independent review comments directly to Nancy by COB 29 July.

Please

let me know if you need more time. Note that this project is required to be complete ASAP.

Nancy,

You may wish to compile all comments in one single memo or just forward these to me with

your comments.

Please let me know if there is any question.

Thanks,

Junaid

On Wed, Jul 22, 2015 at 1:37 PM, Parker, Nancy <nparker@usbr.gov> wrote:

Hi Junaid -

I have passed this information on to Kristin White for CVO review.

I spent some time this morning reading the tech memo and reviewing the model results in

more detail. Please let me know if you need my review comments to be formalized, and what

format that should take.

Thanks,

Nancy

On Tue, Jul 21, 2015 at 2:48 PM, As-Salek, Junaid <jassalek@usbr.gov> wrote:

Nancy and Eric,

Please let me know if you guys are OK with only Nancy, Nazrul and Eric being the reviewers

or otherwise, please advice me with a list of the internal (DWR and Reclamation only) reviewers.

I was wondering if Kristin and Thuy (or someone from CVO) should be included now or in a

later stage.

Thanks,

Junaid

On Thu, Jul 16, 2015 at 5:16 PM, Dan Easton <Easton@mbkengineers.com> wrote:

Hello,

I've placed several files at the following Dropbox link:

<https://www.dropbox.com/sh/vlmjpum8fchbgro/AABylf1OpBGKiJuNtQuG6fiRa?dl=0>

Tech Memo Draft 2015-07-16 rev1.docx - This is the memo I sent out earlier today.

NEPA_NAA_01272015_nc.zip - This is the study I refer to as CalSim_27JAN2015 in the memo.

NEPA_NAA_01272015_nc_Revised.zip - This is the study I refer to as CalSim_27JAN2015_Revised in

the memo.

ExportEstimateAnalysis_071615.xlsx – This is the spreadsheet used to process Step 2 export forecast iteration input and the final Step 3 export estimate refinement as discussed in the memo.

CalSimViewer-SanLuisImprovements2_071615.xlsm - This is the spreadsheet used to create the graphs and tables in the memo and it contains some analysis that supports the Step 3 export estimate.

NCP_minimum_flow_schedule.xlsx – Walter developed an NCP minimum flow schedule that is no longer dependent on NOD Ag service allocations. This spreadsheet contains the schedule. The logic is added to CalSim_27JAN2015_Revised but it is turned off for purposes of analyzing San Luis operations improvements. We would be glad to discuss the proposed NCP minimum flow schedule at a convenient time.

Meeting Notes:

My recollection of the meeting is limited, so I would appreciate any comments of corrections attendees have:

1. Reyes and Islam were uncomfortable with the annual variability of the export forecasts used in the allocation logic. They thought a more generalized function could be created to create a similar operation. We would like to discuss this further after DWR has had time to review the memo.
2. Parker was uncomfortable with year specific conditionality of the CVP allocation refinements to reduce San Luis carryover and boost allocations in the 1930's. She wanted to test whether we could apply one method or another uniformly and see if we could get similar results.
3. DWR and Reclamation have agreed to read the memo and provide comments.
4. It would be ideal to apply the revised model to a specific water resource planning problem, maybe something like San Luis Enlargement, to prove such a model formulation can be successfully applied in water supply planning analysis.

I'm sure there were other comments and discussions that are slipping my mind. Please add to the list.

Thanks

Dan

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Dan Easton, P.E.

**MBK Engineers**

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From: As-Salek, Junaid [mailto:jassalek@usbr.gov]

Sent: Thursday, July 16, 2015 10:44 AM

To: Dan Easton <Easton@mbkengineers.com>

Cc: Nancy Parker (nparker@usbr.gov) <nparker@usbr.gov>; Reyes, Erik@DWR (Erik.Reyes@water.ca.gov) <Erik.Reyes@water.ca.gov>; Nazrul Islam (nislam@water.ca.gov)

<nislam@water.ca.gov>; Walter Bourez <Bourez@mbkengineers.com>

Subject: Re: Tech Memo

Thanks to Dan and Walter for the work and to Nancy, Nazrul and Eric for your valuable comments.

Dan, I was wondering if you would also like to post a summary of the discussions and decisions that were made in yesterday's (20150715) meeting.

I would like to request all to make the posting of memo, model, and spreadsheets and the

review a top priority. Note the time constraints of this project and also that of any possible

follow-up project.

Nancy and Eric, please advise me with a list of the reviewers.

Thanks,

Junaid

On Thu, Jul 16, 2015 at 10:17 AM, Dan Easton <Easton@mbkengineers.com> wrote:

Hello,

Walter has a some editorial comments to add to the tech memo draft I handed out at the meeting yesterday. Once I get those incorporated, I'll post the memo, model, and spreadsheets for everyone to review. Thanks for attending the meeting yesterday. I look forward to discussing these issues further with you and the broader CalSim community. Whether these proposed revisions are used or not, I believe they provide a benchmark for

what is possible.

Kind regards,

Dan

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Dan Easton, P.E.

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